

**In the Claims:**

Please amend the claims as indicated in the separate sheets attached below and entitled “Claim Amendments Filed 10/25/2006 with Response to Office Action mailed by Examiner on 04/25/2006 in Patent Application No. 10/675,350”.

**In the Specification**

Please amend the specification as indicated in the separate sheets attached below and entitled “Specification Amendments Filed 10/25/2006 with Response to Office Action mailed by Examiner on 04/25/2006 in Patent Application No. 10/675,350”.

**REMARKS**

Claims 1, 3-11, 13-17, 20-32, and 38-42 are cancelled without prejudice or disclaimer. Claims 2, 12, 18, 19, 33-37, 43-45 and 47 are amended as indicated. New claims 48-54 are added. Accordingly, claims 2, 11, 12, 18, 19, 33-37, and 43-54 are now pending. Claims 43, 45, and 47 are independent.

The Office Action indicates that independent claim 47 is allowed and that claims 43-46 recite allowable subject matter but are objected to as being dependent upon a rejected base claim. Applicants note, however, that numbered paragraph 3 of the Office Action indicates that claims 43 - 46 are rejected under 35 U.S.C. §112, second paragraph. As discussed below, amendments to the language of former claim 42 – now incorporated into claims 43 and 45 via the present amendments – obviate the outstanding rejection of these claims.

The Patent Office has rejected claims 1-42 for reasons stated in the Office Action. While the Applicants do not concede the merits of any of the rejections set forth in the Office Action, the Applicants have elected to cancel the rejected independent claims solely for the purpose of expediting the patent application process. Claims 43 and 45 are now been rewritten in independent form, to incorporate limitations of cancelled claim 42. The language of claim 42 reciting that “said core ...being capable of focusing energy at locations spaced along the length of the fiber” has been changed in the present amendments of claims 43 and 45 to recite “said core ... being capable of focusing energy at at least one location along the length of said first optical fiber”. This change is non-narrowing and has been made solely to improve the readability and clarity of the claim and not

for any reason related to patentability. Support in the specification for the amended language can be found, for example, in paragraph [050] and in Figure 3.

Claims 2, 11, 12, 18, 19, 33-37, and 43-45 have been amended to depend from allowed claim 47 and, since each includes all of the limitations of allowed claim 47, are allowable over the references of record in view of their dependency on an allowed claim. Minor amendment is made to claim 47. The amendment is non-narrowing and is made to improve the readability of the claim.

#### New Claims

New claims 48-54 have been added. Each of the new claims depends either directly or indirectly from allowed claim 47, and thus is patentable over the references of record for at least the same reasons as is claim 47. New claims 48 and 49 are directed to subject matter supported in the specification in, for example, paragraph [048]. New claims 50 – 53 recite subject matter supported in the specification in, for example, paragraphs [056], [058], and [060] and in Figures 5-7. New claim 54 recites subject matter supported in the specification in, for example, paragraphs [050] – [054] and [058] – [062] and in Figures 3-8.

#### Rejections under 35 U.S.C. §112

The Patent Office rejected claims 43-46 under 35 U.S.C. §112, second paragraph because there is insufficient antecedent basis for the recitation “said inner region.” It is believed that the present amendments to claims 43 and 45 in which the above quoted language has been replaced with “said first region” obviates this basis for rejection.

Accordingly, withdrawal of the rejection of claims 43-46 under 35 U.S.C. §112, second paragraph, is respectfully requested.

#### Amendment to Specification

The specification is amended at paragraphs 46-48 to correct typographical errors in an equation. Paragraphs 46-48 include the well-known equation for the numerical aperture (NA) of one region (e.g., the core) of an optical fiber relative to another region (e.g., the cladding) of the optical fiber. The equation is amended in each instance to change the “+” sign to a “-” sign. The proposed correction is considered readily apparent to one of ordinary skill in the art as it is

immediately evident that nothing else is intended other than what is being offered as a correction. One of ordinary skill appreciates that the equation is intended to refer to a NA for a fiber, which is properly calculated as the square root of the difference between the squares of the indices of refraction of two regions of the fiber. This is confirmed by the calculated values noted in paragraphs 46-48 for the equation, which are all less than one, and given the common knowledge that the NA is typically less than 1. However, it is apparent to one of ordinary skill that the equation currently incorrectly defines NA because, for example, using typical values for indices of refraction, which are greater than 1, the equation as currently written in paragraphs 46-48 would yield NA values of greater than one. One of ordinary skill would also appreciate that the terms in the equation of paragraph 48 should be reversed, so as to avoid taking the square root of a negative number. In support of the proposed correction, please see the included non-patent literature document, which is an extract from the textbook "Understanding Fiber Optics" by Jeff Hecht (Sams Publishing, 1993) which provides the correct formula for numerical aperture at page 23.

#### Request for Three Month Extension of Time

Applicants hereby request an extension of time of three months for response to the outstanding Office Action mailed April 25, 2006, thereby extending the time for response to October 25, 2006.

#### Electronic Payment of Fees

Fees associated with this filing (Three Month Extension of Time fee of \$510 for a Small Entity) are being paid electronically. No other fees are considered to be due. However, if it is determined that an additional fee is due, or that an overpayment has been made, please debit or credit, as appropriate, Deposit Order Account 50-2343.

**CONCLUSION**

This Response and Amendment is considered to address all matters raised by the Examiner in the outstanding Office Action. It is respectfully submitted that the case is now in condition for allowance. Passage to issue is respectfully requested. Please do not hesitate to contact the undersigned if any issues are deemed to remain unresolved.

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Respectfully submitted,

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